


Parasitic

(6) داء طفيلي (1)

A. Worms (Helminths)

• Cut. larva migrans

•  داء الخيطيات

• Gnathocerciasis

• Filariasis

• Schistosomiasis & Swimmer's Itch

• Cysticercosis & Echinococcosis

Protozoa

(1264)

• Leishmania

• Amebiasis

• Trypanosomiasis

• Toxoplasmosis

B. Infestations : (1291)

• Scabies

• Pediculosis

• Tungiasis

• Myiasis

C. Bites & Stings : 1303

• Bed Bugs

• Blister Beetles

• Insecta

• Tick Bite

• Dog & Cat Bites

• Marine inj.

• Leeches

• Scorpion & Snake

Mites

②

2. S.C MYcoses (1149)

1. Chromo Blastomycosis
2. Mycetoma
3. Sporotrichosis
4. basidiobolomycosis
5. Lobomycosis

③ Systemic MYcoses

True Pathogen

- Histoplasmosis
- Blastomycosis
- Coccidioidomycosis
- Paracoccidioidomycosis

Opportunistic Pathogen

- Systemic Candidiasis
- Aspergillosis
- Cryptococcosis
- Zygomycosis
- Phaeoconidiosis
- Histoplasmosis

Parasitic skin diseases

(3)

- Scabies
- pediculosis
- Leishmaniasis
- Creeping Eruptions
- Demodicosis

Scabies (7 year itch)

Contagious parasitic skin dis. caused by Fertilized Female Sarcoptes Scabiei var hominis (mite or Acarus)

Greek word

- Sarx = Flesh
- Koptein = to bite or cut

Latin word

Scabere = Scratch

Pathophysiology

التهاب

Mites

العث

♂ 0.2 mm
♀ 0.15 mm
♂ 0.4 mm
♀ 0.3 mm

Hemispherical

have < 4 pairs of Legs + ant 2 ends & Sucker
dorsal spines

Life Cycle: 30 days (شهر) (4-6)

Deposit: 2-3 eggs/day

eggs → hatch → Larva & nymph stage
7 ds → adult → Reaction (itching, DR)

Can live upto 3 ds away from human host

في الحشرة (Crustal sc.)

(so Femites, beddings & clothings are alternate but infrequent source of infection).

Feed on dissolved tissue (by secreting proteases that dissolve st. corneum; don't feed on Blood)

Create a burrow. (1st lesion)

في الجلد (Crustal sc.)

No. of mites on patient body

- Classic scabies: 10-12 (2/3 wrists & hands)
- Norwegian: > 1 million.

hypersensitivity Reaction (Type IV) develop

Against

mite egg feces

(Feces)

Scybala

تسبب حكة
وتتفرغ حشرات
والجودة البشري
Burrrow
nymph → Adult → Burrrow

Night Warmth

++ movement

Night itching

X The Allergic sensitivity (is) both:

• CMI

↓
manifested by acute
eczematoid Reaction

• Humoral

IgM & IgG
in vs. oral &
± DEJ.

Mode of Transmission

Direct (+)

↓
direct & prolonged
contact & the
patient or ingested
animals

"طويل - طويل - طويل - طويل"

Indirect (+)

• Sharing
Common Bed,
Towels,
clothes

less in
fant
(cont.)
→ very
host

Clinically < CIP
Clinically Varieties

• IP: ??

③

Itching
lesion
distribution.

• Itching: intense that is worse at night (winter, the
cause)

Lesion: (Iry lesion): [1] Burrows: Pathognomonic
sign of scabies (Iry lesion).

• Serpiginous, grayish, "thread like" elevations

at the end of cu < Vesicles or
Papule or
black dot (mite)

• site: → adult: wrist, hand, Elbow, axilla, < ♂
→ infant: Palm & Soles, Trunk, < ♀

[2] • papules & vesicles at < adult: penis & areola.
children: Face & Neck.

→ [3] Wide spread Eczematoid erythema: → young child
infants.

[4] Nodular lesion (nodular scabies) → pink-brown
(2-10mm)

[5] Crusted scabies

Scabies

IP

• 1ry infect

2-6 d

• Recurrent
infect.

1-2 d

1ry

2ry

Other

- Burrow
- papules
- vesicles
- nodules
- wide spread
eczema
- Crusted scabies

2nd lesions: dit \leftarrow 2nd inf. & low
 Host immune response
 against the mites &
 their products.

as $\left\{ \begin{array}{l} \cdot \text{Crustation} \\ \cdot \text{Post inflamm.} \\ \text{hyperpigment.} \\ \cdot \text{erythroderma} \\ \cdot \text{Nodular prurigo} \\ \cdot \text{Ptydermia} \end{array} \right.$

distribution of lesion

"apt" \rightarrow "warm, soft, moist areas"

U.L $\left\{ \begin{array}{l} \text{Finger creases} \\ \text{Flexures (ant.) of wrist} \\ \text{ulnar border of hand \& Forearm} \\ \text{Elbow, axillae, around nipple (f)} \end{array} \right.$

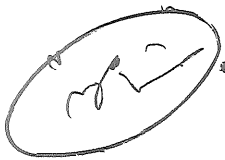
L.L $\left\{ \begin{array}{l} \text{inner aspect of thighs \& legs} \\ \text{around ankle} \\ \text{dorsum of feet} \end{array} \right.$

Abd. $\left\{ \begin{array}{l} \text{Lower abd.} \\ \text{Genitalia} \\ \text{lower buttocks} \end{array} \right.$

NB $\left\{ \begin{array}{l} \text{Face: not affected (except Necrotic \& old age).} \\ \text{Interscapular} \rightarrow \text{usually spared} \end{array} \right.$

Very characteristic areas:

\rightarrow $\left\{ \begin{array}{l} \text{♂: papules \& vesicles (on) scrotum \& penis} \\ \text{♀: around the Areola} \end{array} \right.$



Circle of Hebra: imaginary circle intersecting the
 main sites of involvement:

- axillae
- elbow (Flexures)
- wrists
- Hands
- Crotch (perineal area)

Clinical Varieties

1. Human (classical type)
2. animal type
3. Nodular sc.
4. Crusted sc.
5. Venereal sc.
6. Incognito

7. scabiosa:

- infants \& children
- bed ridden
- Clean.



sarcoptes
Manage

Animal scabies (Biting not infested by Animal mite) (6)

- Short IP
- More Extensive
- Self limiting
- Not Transmitted bet. humans.

(Site) - different distribution \rightarrow \pm localized \rightarrow acc. to mode ex
 (lesion) ① No Burrows \rightarrow \pm Generalized
 (Hx) ② HI \rightarrow topical webs & Genitalia \rightarrow FUR
 anti pruritic & antihistaminic.

Nodular scabies: (Post scabotic nodules)

Nodules \leftarrow erythematous, pink-brown
 Indurated
 mainly at \leftarrow σ : scrotum & penis
 \leftarrow ♀ : areola. other \leftarrow all over butt

- Represent hypersensitivity Reaction to dead mites or its toxins.
- May persist for mos after Hx \rightarrow Persistent itching \rightarrow (So H)
 - Cs \leftarrow topical ILs
 - Tar
 - Surgical excision.

Crusted scabies (Norwegian scabies)

- Special type of scabies Caused by severe infestation (>1 million mite) d.t inability to
 - mount an immune response
 - perceive pruritus
 - physically scratch the skin

defect \leftarrow MR, DM, leukemia
 Patient CS \leftarrow Immune compromised
 neurological disorders eg Leprosy.

"Mechanism rid the body of mites"

- clinically:
 - Skin: Severe crusting, infested & hyperkeratosis
 - scalp: subungual Hyperk., discolored nails
 - scalp & face affected
 - Erythroderma, L-N, Eosinophilia

hand & arms \leftarrow affected
 L.t distal area can be affected.

Itching

- Venerical scabies: STD.
- Scabies in bed ridden: → localized to areas in contact w/ bed.
- Scabies in infants & children:

- Low index of suspicion.
- frequent lack of burrow.
- Frequent eczematous lesions:
 - vesicle
 - Bullae
 - 2° bact. inf.
 - Nodules

• Atypical distribution: Face, scalp, neck, palms & soles.

- Scabies in clean: → lack of burrow.
- Scabies Incognito: scabies that is of modified course & extension by use of Cs.

↓
immediate Relieve of S. & S. → Flare & Atypical picture.

Variant of API but affect the Torso > API

How to diagnose a case of scabies

(Diagnostic features)

Acral pustules, Recurrent, itchy lasting 5-10 d. Then recur 12-4 wks. H. antihist Cs

- Marked Itching that ↑ at night (esp. 4 AM)
- +ve FH
- classic sites, distribution & Morphology.
- Response to specific H (therapeutic D): investigations:

1. Scraping: scrap the dry lesion → papule vesicle → glass slide & 10% KOH or mineral oil → mites, feces (scybala) or eggs. (multiple scrap may be needed)

2. Burrow ink test (or Gentian Violet).

3. Wood's Light: tetracycline sol. put on burrow → (crash the ex. con. w/ → "Green Fluorescence")

NB: Use 10% KOH to remove crust in crusted scabies.

• KOH: dissolve the scybala so mite is exposed.

Fig 4.

Histopathology.

Fig

(8)

• usual scabies: (early lesion)

• See larvae, ova, mites, feces in str. corneum

• suppurative & deep dermal infl.

(Histocytes, Lymphocytes, Eosinophils)

• Spongiosis

• exocytosis

• Crusted scabies:

• Hyperkeratosis

• psoriasisiform epid. Hyperplasia

• Spongiosis

• Superficial & deep chr. inflamm. infl.

- (a) Post scabietic nodes:

→ Pseudo lymphoma

Fig 5

NB

(1) Consider scabies in any patient presenting w/ recent onset of itching that ↑ at night

(2) Scabies treat burden:

• Late infection (Excoriated)

• animal scabies

• Scabies in clean

• Infertile scabies.

(3) Scabies treat Itching:

• within IP

• Crusted scabies

• Incognito

(4) Scabies that ~~need~~ need not

animal scabies

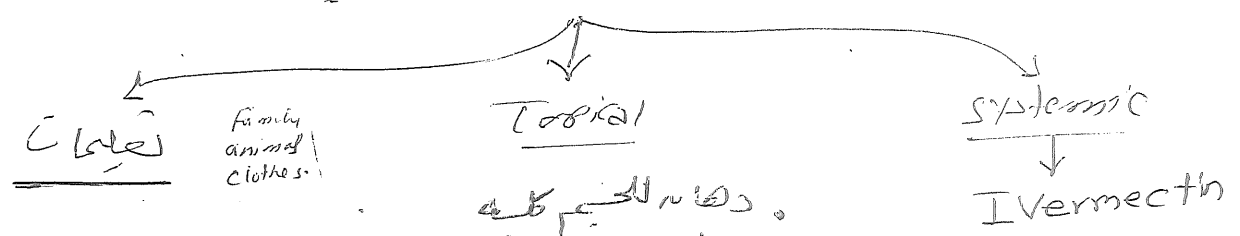
Fig 6

(5) D.D Infantile & childhood scabies:

Acropustulosis of infancy

Fig 7

Treatment → Scabies



- ١- علاج كيميائي
- ٢- كل أفراد العائلة (حتى لو لم يصابوا)
- ٣- تغيير الملابس الداخلية ولباس البيت
- ٤- غسل البجاد ولباس النوم فوراً
- ٥- تغيير الفراش بالجملة كل أسبوع
- ٦- ميكروبلازما (ميكروبلازما)
- ٧- تغيير الملابس الداخلية ولباس البيت
- ٨- غسل البجاد ولباس النوم فوراً
- ٩- ميكروبلازما (ميكروبلازما)
- ١٠- تغيير الفراش بالجملة كل أسبوع
- ١١- ميكروبلازما (ميكروبلازما)
- ١٢- ميكروبلازما (ميكروبلازما)
- ١٣- ميكروبلازما (ميكروبلازما)
- ١٤- ميكروبلازما (ميكروبلازما)
- ١٥- ميكروبلازما (ميكروبلازما)
- ١٦- ميكروبلازما (ميكروبلازما)
- ١٧- ميكروبلازما (ميكروبلازما)
- ١٨- ميكروبلازما (ميكروبلازما)
- ١٩- ميكروبلازما (ميكروبلازما)
- ٢٠- ميكروبلازما (ميكروبلازما)

دهان الجسم كله
على الوجه والرقبة
(تحت الكبريت)
للبشرة والجلد
تغيير الملابس
الداخلية ولباس
البيت

Topical HT

لا يتم تكراره بعد أسبوع
overnight (2hrs)
(2 applications, 1w apart)

- Sulfur ppt (5%)
- Benzyl Benzoate (25-33%)
- Gamma benzene hexachloride
- Crotamiton (10%) (Scabine)
- Malathion (0.5%)
- Ivermectin (1%)

All are Category (C) in Preg.

Except Ectomethrine & Prisdorm
Category (B).

لا يتم تكراره بعد أسبوع

Drug	Risk	Risk factor	Efficacy
Permethrin 5%	Over night	Allergy to formaldehyde	Good but some cases developed Tolerance.
Scabine	Repeat after 1w	CNS dis. Age < 2y Pregnant & lactating endured skin	low efficacy Common Resistance SE
Sulfur	3 successive days	Non irritant CD & denuded skin	Not evaluated
Crotamiton	Repeat after 1w	See systemic	Very poor, used for post scabetic pruritus
Ivermectin	3 successive days		Good

Systemic II (Ivermectin)

(10)

- dose : 200 - 400 $\mu\text{g/kg}$ Repeated after 1-2 wks.
- Tab : 6 mg (tab / 15-30 Kg). \downarrow For 2-3 ds

- C.I :
 - pregnant (C)
 - Lactating
 - Age < 5 yrs or Wt < 15 Kg ?? (BBB still in adequat)
 - Hypersensitivity
 - CNS disorders (any condition where disturbed BBB)

Extremes of Age

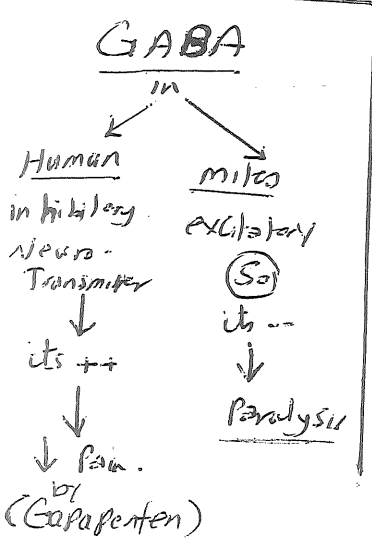
• Mechanism : Blocking neurotransmission across nerve synapses that utilize glutamate or GABA \rightarrow Paralysis of peripheral motor function of insects

(glutamated Chloride Ion Channels) \downarrow Exp. L
"GABA in insects"

• GABA & glutamate are inhibitory neurotransmitters in Human brain

So intact BBB Needed to avoid its toxicity \rightarrow "Convulsion"

منه انهم > من الحشرات



• Cuplen \rightarrow \rightarrow

1. ++ Synthesis of GABA (No effect on RS)
2. $\alpha 2\delta$ Voltage gated Ca^{++} Ion Channels \rightarrow \downarrow pain.
3. effect Cytokines

(Other uses)

- oncho
- Filariasis
- Strongylos
- Cut. l.
- Dem

of choice in Crusted Scabies & other Toxicoin

"Mazouli react"

• FDA \leftarrow onchocerciasis Strongyloidiasis

- S.E rare:
- Tachycardia
 - Nausea
 - Flushing
 - lightheadedness
 - in onchocerciasis
- \rightarrow Fever, rash, angioedema & Eye imm.
- Strongyloid. \rightarrow diarrhoea Rash

NB

معالجات الـ Scabies

(11)

- [. Ectomethrine
- [. Ivactin
- [. Malathion

Causes of persistent itching "استمرار الحكة"

1. Re infection
2. Failure of tt
3. CD from the tt
4. Post-scabietic pruritus:

d.t. Hypersensitivity Reaction to the dead mites 2-4 w → Exfoliated → Cessation of itching).

⑥ Postscabietic Nodules

⑤ delusion of parasitosis (Acarophobia)

• Why we give 2nd applicatⁿ after 1 w??

1. Guard against Reinfestation from infected fomites
2. to Kill ant hatched Nymph that protected from the semi protective environment of eggs.

* What's tt of Acarophobia??
(Pimozide)

* What is the pathology of Nodular Scabies??

(E)

- 10% Sulfur 5% — Form hydrogen Sulfide
Keratolytic
- 25% — Benzyl Benzoate: NS →
- benzene Hexach (lindane 1%):
 - Crotemiten (10%): Mechanism ??
 - Permethrin (5%): — Na Transport in Neurons → Paralysis.
 - Malathion (0.5%): organophosphate, Toxic applied for 12h.
 - Ivermectin (1%)

-
- 3 Successive days — Sulfur
Benzoate
Crotemiten.
- 1 & 8 d. — Ectomethrin
Scabim.

● Dermoscope:

1. dark Triangle (Pigm. ant part of mite)
2. Burrow, eggs, feces.

Pediculosis (Lice Infestation)

• parasitic infestation by flattened, wingless, blood sucker insects

• 3 Types of Infestations caused by 3 species of Lice:

- Pediculus Humanus Capitis → Head louse
- " " corporis → Body "
- phthirus pubis → Pubic louse.

NB: Some authors consider only 2 species of Lice:

- ① Pediculus Humanus → 2 varieties Capitis
Corporis
- ② Phthirus pubis

X Head lice = pediculosis Capitis

• description & Life Cycle of the Lice:

Lice (Pediculus Capitis)

2-3 mm (Sesame size)

Wingless, white to gray

with 3 Pairs of clawed legs that fit texture & shape of Hair.

SUCK Blood: 5 times/day for 30 mins.

Life cycle: 30 ds.

Lay: 5-10 eggs/d. $\xrightarrow{\text{7d}}$ hatch \rightarrow larva $\xrightarrow{\text{2w}}$ nymph $\xrightarrow{\text{2w}}$ Adult

• 3 Pairs of clawed legs
• life cycle 30
• eggs 5

Nits (egg case or shell)

• the eggs are surrounded by oval Capsule or Shell - that's has chemical structure similar to that of Hair shaft (so any Triol by chemical to remove it → damage of shaft)

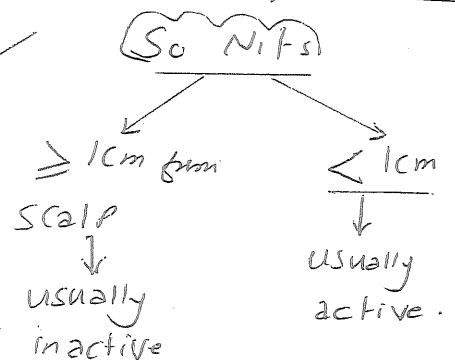
→ "Has a Cap: porous Operculum" Cap that allow for gas exchange while the nymph develop in the case.

2-7
 • Can't survive > 36 hrs
 away from The Host
 without blood meal

- Move 23 cm / min
- Combing & Hair dryers
 Can eject it ~~for~~ \rightarrow
 \approx 1 meter away
 from the scalp.

Hot Humid
 areas may
 be active at
 distance of
 15 cm from
 scalp.

Except



• Hatch after: 10 ds under
 favorable Temp. (30°C) &
 Humidity (70%).

NB - Head lice harbor many organisms within
 Their Gut & they are unproven yet likely, vectors
 of various Human pathogens.

(eg). They can transmit: Staph & Strep by
 carrying the organisms on their external surfaces.

• eggs $\xrightarrow{10ds}$ Hatch $\xrightarrow{10ds}$ mature louse.

• Net Color $\begin{cases} \bar{e} \rightarrow \text{Viable eggs} \rightarrow \text{brown} \\ \bar{e} \rightarrow \text{hatched} \rightarrow \text{white} \end{cases}$

Mode of Transmission

- Direct \rightarrow Head to Head Contact
- Indirect: \rightarrow Via brushes, Fomites, beddings,
 blow dryers, Combs.

Africans are never affected
 due to the physical structure of
 their hair.

• IP (Period from infestation till development
 of symptoms as itching):

15/
 scabies

- First infest. \rightarrow 2-6 w.
- Recurrent \rightarrow 1-2 d

(development of immunological
 response to irritant components
 to lice Saliva / Excreta)

- Age: 4-11 yrs
- Sex: ♀ > ♂

CIP

• Irritation, itching, Eczematization & 2ry bact. Inf. (Impetigo).

• S & S: more common specially at post. Hair line & post. auricular.

• Inspect for $\left\{ \begin{array}{l} \text{Adult louse} \\ \text{Nits} \end{array} \right.$

Comment on the

distance from Scalp surface.

(\geq or $<$ 1 cm).

Color (brown or white)

• Low grade fever, irritability & L-N

(NB): Pediculosis is the most common cause of Scalp Pyoderma.

DD:

→ Scalp Pruritus e.g. S.D & P.S.
→ Cause of Nodes at Hair shaft (See Hair): e.g. Pseudonits

→ Scales of SD:

→ $\begin{array}{l} \text{Falling Scales} \rightarrow \text{SD} \\ \text{No falling} \checkmark \rightarrow \text{pediculosis (Nits)} \end{array}$

• 3-5 mm
• 3-5 cm from scalp
• sleeve like \rightarrow Sliding over Hair
• M.L: yellow-green fluoresc.

(H) retention.

Treatment

1. Chemical methods \rightarrow Pesticides
2. physical methods \rightarrow Nit removal & lice immobilization.
3. Antibiotics \rightarrow Septrin (& Albendazole.)
4. Other lines \rightarrow Systemic antib. & disinfectant of linens.

(17)

Head lice are the most common cause of the pyoderma of the scalp.

(15)

1 Pesticides

• توضیح لیسہ ۱. دقایقہ ۱۰-۸ ساعت در کم از قبل
توضیح طے ۸-۱۰ ساعت (overnight) بعد (indicated) قواعد
لازم بیاورده استخدام بعد خنثی سبوع
(another application)
Lotions افضل من Shampoos.
الافضلیه ۳ منتجاً ①②③

- Organophosphorus (-- cholinesterase) → ① Malathion 0.5% : لا فیزیکی، لا صریح
• Kill lice & eggs
• stick to Hair → protect against reinf. at the Next 6 ws.
• Excellent results.
- ~ antiparasitic ~ → ② Ivermectin : 1% ± 1% (Topical)
"Synthetic Pyrethroid" → ③ Permethrin 5% C.
- ~ Natural extract ~ → ④ Pyrethrin : Piperonyl butoxide may be added to it to slow its Biotransformation by -- CYP450 of the insect → ↑ efficacy.
- Chlorinated Hydrocarbons (DDT) → ⑤ Lindane (Scabine)
• not preferred why??
• applied for 4 mins.
- ⑥ Systemic Ivermectin: as in scabies.

2 Physical Agents (Nit Removal):

• olive oil
• vegetable oil
• Vaseline
• Mayonnaise
→ reflects Suffocation (±) help to ↓ lice movem. → easy combing

• Vinegar + water (1:1)
→ dissolve the Cement Subst. & Nit

• يدسرا بجهت شستن
• دیرین من ۱/۲ ساعت
• ۱۰-۱۵ دقیقه

• بوسا خنثی و دیرین
• نعلن لیسہ ۱/۲ ساعت من شستن

[3] Antibiotics: as (TMP + SMX) e.g., Septrin¹⁸

- -- growth of essential bacteria in Gut of Lice → disturb its life cycle.
- Potentiate: efficacy of Topicals.

NB . up to till now no product is effective in Nit removal

- Septin: is not curative alone.
- Resistance is common with all preparations
Except: malathion & Ivermectin.

→ "See below"

[4] other H:

- Systemic Antibiotics for dry bact. inf.
- Linens, Pillows & towels should be Laundered or dry Cleaned.
or Boiling & Ironing

Body lice (pediculosis corporis) (Vagabond's dis.)

Predisposing factors:

- Over crowding
- Bad Hygiene.
- Poverty
- Wars

Pathogenesis:

- Body lice don't live or Lay eggs on the body but on the Clothes.

- The lice live on clothes & moves at night to suck! Blood.

→ "Seams of Clothes"

نقل: Many diseases can be Transmitted by body lice:

Transmission by

louse Faeces
Crushed → enter
at site of bite or
Break

Inhalation

- Epidemic typhus (*Rickettsia prowazekii*)
- Relapsing Fever (*Borrelia recurrentis*)
- Trench Fever
- Bacillary angiomatosis
- Endocarditis

"Bartonella quintana"

- CIP: ① Severe pruritus at back, neck, shoulder, waist.

- ② Small Pin point macules, papules, Excoriation, Impetigo & L.N

- ③ Clothes & beddings: Pus, Blood & Fecal Pellets.

→ Adult lice & Nits: found

at clothing Seams that are at Contact = Neckline, Axillae & Belt line.

Body lice do not live or lay eggs on people but in their clothing.

"نقل" [نقل]

(11)

Pediculosis Pubis (Phthirus pubis)

(23)

* Treatment: Mainly directed to Clothes & Bedding (21)

jeby . discarded in tightly sealed plastic bags & incinerated

↓ if not possible.

- Hot washing & Tumble-Drying
- Dry cleaning

Patient ↓
as antiscabetic
Clothes ↑
or job

NB - Vagabond's dis: Heavy pediculosis corporis
ass. with:

1. SKIN { Thickened
Eczematized
Pigmented (Addiscolor) }
like
2. L.N.

8

Pediculosis Pubis (Phthirus pubis) (23)

قمل العانة (Crab Lice)

- Crab lice: is more accurate as infestation of other hairy areas may occur e.g. axillae, eyebrow & Lashes.

Epidemiology

- Age: 25-40 Ys (age of sexual activity)
- Sex: ♂ > ♀ (dit Coarse Pubic Hair).
- Transmission:

1. STD: by direct contact
2. Indirect: by fomites & Towels.

Pathogenesis:

- Lice differ from that of body & Head in:
 - More shorter & wider
 - They have serrated edges on their first claw that enable them to ambulate on entire body surface → so infestation occurs not only in pubic hair but also on:

- Scalp (margin)
- Eyelashes
- eye brows
- Moustach, beard, axillae & perianal.



- Indeed, 60% of Patients with Pubic lice are infested in two different hair-bearing sites.

(When pubic area is shaved or treated, any surviving crab lice can travel to other hairy areas including the scalp)

Eyelash nits are a sign of pubic lice!! (Fig. 24)

C.I.P 1. prunus of pubic area

2. Lice can be seen by skilled Eye, clinging to the base of Hairs & may be skin colored or Hgic crust like.

Etiology:
Altered
Blood
Pigment.

3. Macula Cerulea: (sky blue) : asymptomatic, (slat-gray) spots to bluish, irregularly shaped macules affecting thighs & Trunk & ass. e More chr. infestations.

4. Look for other STDs.

5. Eye lash lice: feces accumulate at lower eyelids as "Flacks" of Mascaras!"

Treatment وضع طبخة 1. دة ١٠-١٥ دقيقة (Scabine..) لاي (over night applicat?)

Treat all hairy areas e pesticides
| Except Eyelashes |

• Best H < Topical: Permethrin 5%
Systemic: I Vactin

(2nd application...) عياد العلاج بعد اربع ايام

NB . Eyelashes pediculosis H:

① Petrolatum (Vaseline) → ١٠-١٥ دقيقة

② I Vactin. (Systemic).

③ Mechanical removal of Nits.

④ 1% yellow oxide of Mercury

• Crab louse (pediculosis Pubis): → Consider

other STD

other infected sites.

so
Treat all hairy areas.

Demodex (Demodicosis)

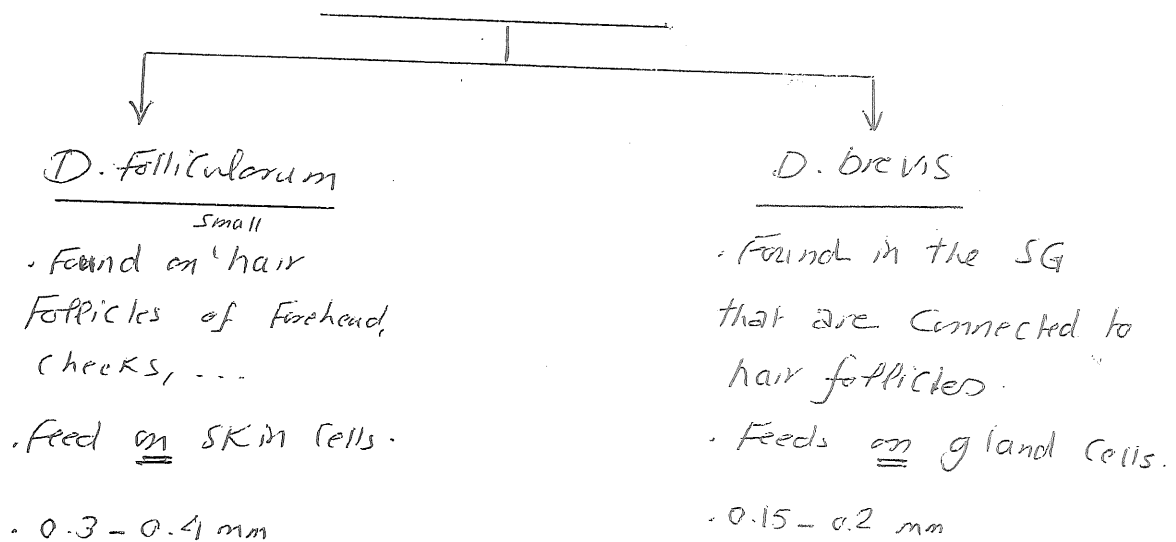
شعوى دمكسى (27)

def. Tiny "mites" That live on hair follicles (inhabit d.) & SG
Specially of: Forehead, Cheeks, Side of Nose, Eyelashes
& EAC.

Age: usually present in older children & Adults.

• Rare < 5 yrs.

Types: 2 Types of Demodex



دمكسى بالليل (٨-١٦ م / ليل)
عشان הפרد بيخلى تسب
داخل follicles

Skin diseases caused by Demodex (Demodicosis):

- Pityriasis folliculorum: dry, scaly skin
- Demodex folliculitis: as before
 - Rosacea (Papulopust. or granulom.)
 - Periorifacial dermatitis
- Blepharitis
- Alopecia
- Abscess.
- L.MDF
- others: ocular problems.

نسي

• Diagnosis Mic. exam of:

1. Mineral oil skin scrapings
2. skin Biopsy.

• Treatment:

1. General lines:

- Twice daily non Soap Cleanser
- avoid oil based Cleansers or greasy make up.
- Exfoliate periodically (to remove dead cells).

2. Specific lines:

- Crota~~miten~~ (Eurax)
- Permethrin C. (~~Ect~~permethrin)
- Metronidazole (Topical or systemic).
- Ivermectin (in severe cases esp. HIV).

- Synonyms: ▪
- OWCL: oriental sore, Delhi boil, Baghdad boil
 - NWCL: chiclero's ulcer (Mexico), uta and espundia (Peru), ulcera de Bauru (Brazil), bush or forest yaws, pian boi (Guyanas)
 - VL: kala-azar and Dumdum fever

Protozoal SKIN infectⁿ caused by: & Transmitted by:

- Protozoa of:
- Genus: Leishmania
- Family: Trypanosomatidae

Phlebotomus
(OWL)

Sand Flies
♂
Genus:

Lutzomyia
(CNWL)

Pathogenesis: the organism spend the life cycle inside Both Sand fly & Human

* Called: Promastigotes (4-25 ds)

- Spindle shaped.
- Fine flagellum.
- proliferate Extra-cellular in their Gut

↓
blockage of their esophagus

↓
during feeding of the Fly → expell the contents of their oesophagus (containing the promastigotes) to

RES of the Human

↓
Human cycle

* Called: Amastigotes

- Ovoid
- Absent or Retracted flagella
- proliferate intra-cellular inside cells of RES; (Macrophages)

↓
Rupture

↓
Spread of inf. To other Macrophages

↓
Carried through the body

Tissues

Factors ↑ Susc. pr. To inf.

- ↓ Th1
- ↓ IL2, IL12, TNFα, IFN-γ
- ↑ level of exposure & virulence of parasite

Immunology of Leishm.

① Role of Th₁

② Role of IL₁₀:

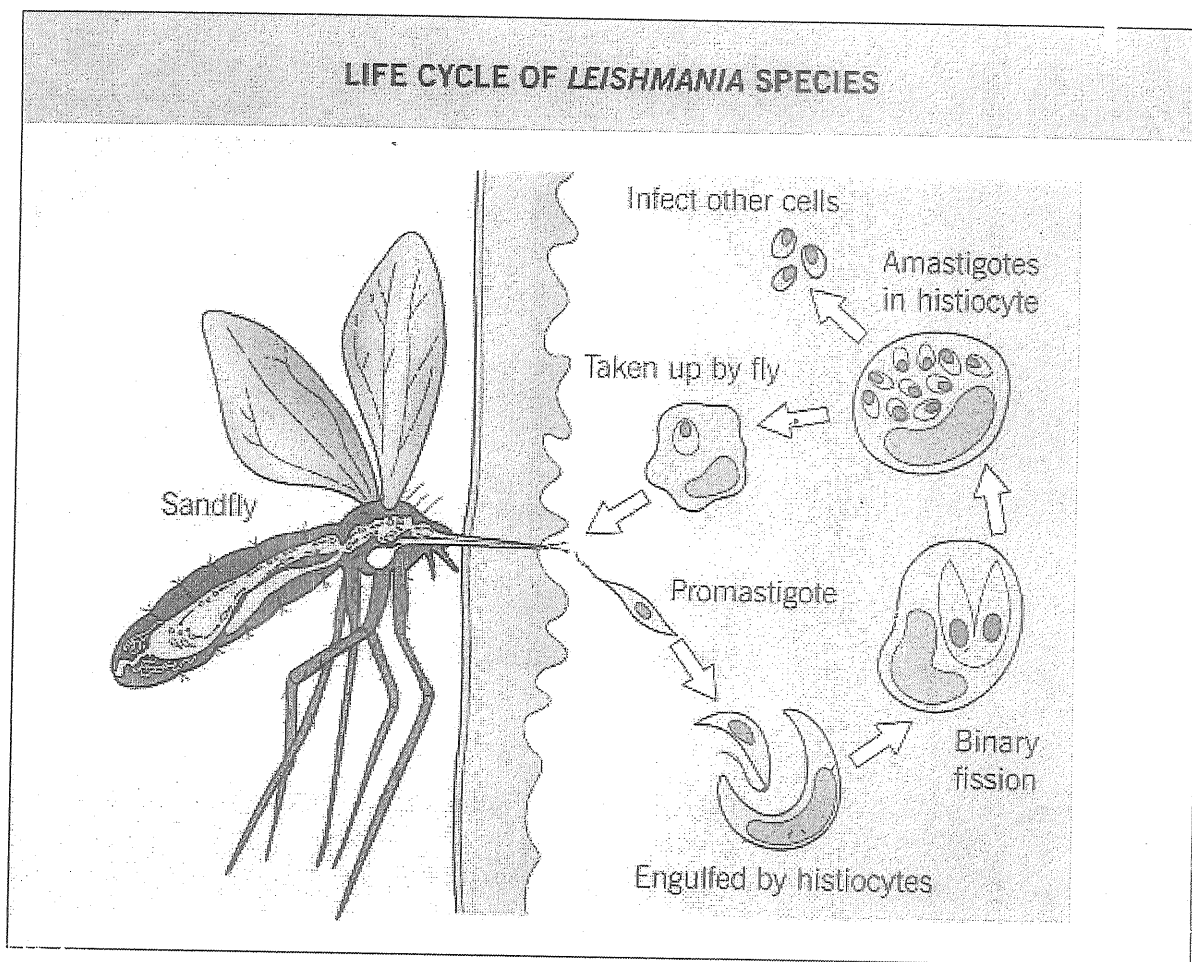
- \downarrow IL₁₂, IFN- γ & -- Macrophage
- IgG binds to FC γ Rs on ~ \rightarrow \uparrow IL₁₀

③ HIV + Leishmania:

- HIV \rightarrow \uparrow leishmaniasis severity &
 \uparrow visceralization incidence.
- Leishm \rightarrow \uparrow viral load & progression of dis.

Reservoirs of inf: Human, Foxes, Dogs & Rodents.

(20)



Both susceptibility to infection and delayed resolution of leishmaniasis have been related in large part to an inadequate Th1 response^[4,5,6], the latter playing an important role in cell-mediated immunity (see Ch. 5). Production of interleukin-2 (IL-2) and interferon- γ (IFN- γ) is associated with a resolving infection, whereas worsening of the disease is associated with the lack of such a Th1 response or the development of a Th2-type response (i.e. production of IL-4 and IL-10)^[4]. Other factors that play a role in the parasite-human interaction include the amount of exposure to and the virulence of the parasite (e.g. macrophage-resistant strains of *Leishmania*).

IFN- γ is the most potent cytokine involved in the induction of cidal activity against the organisms residing within macrophage phagolysosomes. It leads to the production of oxygen species and activates naive CD4⁺ cells to become Th1 cells (see Ch. 5). The latter differentiation process is aided by IL-12, which stimulates natural killer (NK) cells to produce IFN- γ ^[4,6,7]. Tumor necrosis factor- α (TNF- α) is also important for the control of *Leishmania* infections^[5]. It is produced by activated macrophages and NK cells and it amplifies the macrophage activation triggered by IFN- γ . Of note, IL-2 plays a role in stimulating TNF- α production.

Animals which have recovered from *L. tropica* or *L. donovani* infections acquire immunity against reinfection from the same species of *Leishmania*, but not against other species. Similarly, humans with the New World form of cutaneous leishmaniasis have been inoculated successfully with *L. tropica* (and vice versa). Lastly, it has been reported that surviving an episode of visceral leishmaniasis confers lifelong immunity against all types of leishmaniasis.

(C)

Classification: Many Classifications: Acc. To در تصنيفه طبق
معايير ١-٢

1. Taxonomy (الجنس)

2. Geographical:

(A) old world Leishmaniasis: (OWL)

توجد بأنواع اللشمانيا الموجودة: الهند - اسيا - افريقيا -
الشرق الأوسط - ديجرلاند

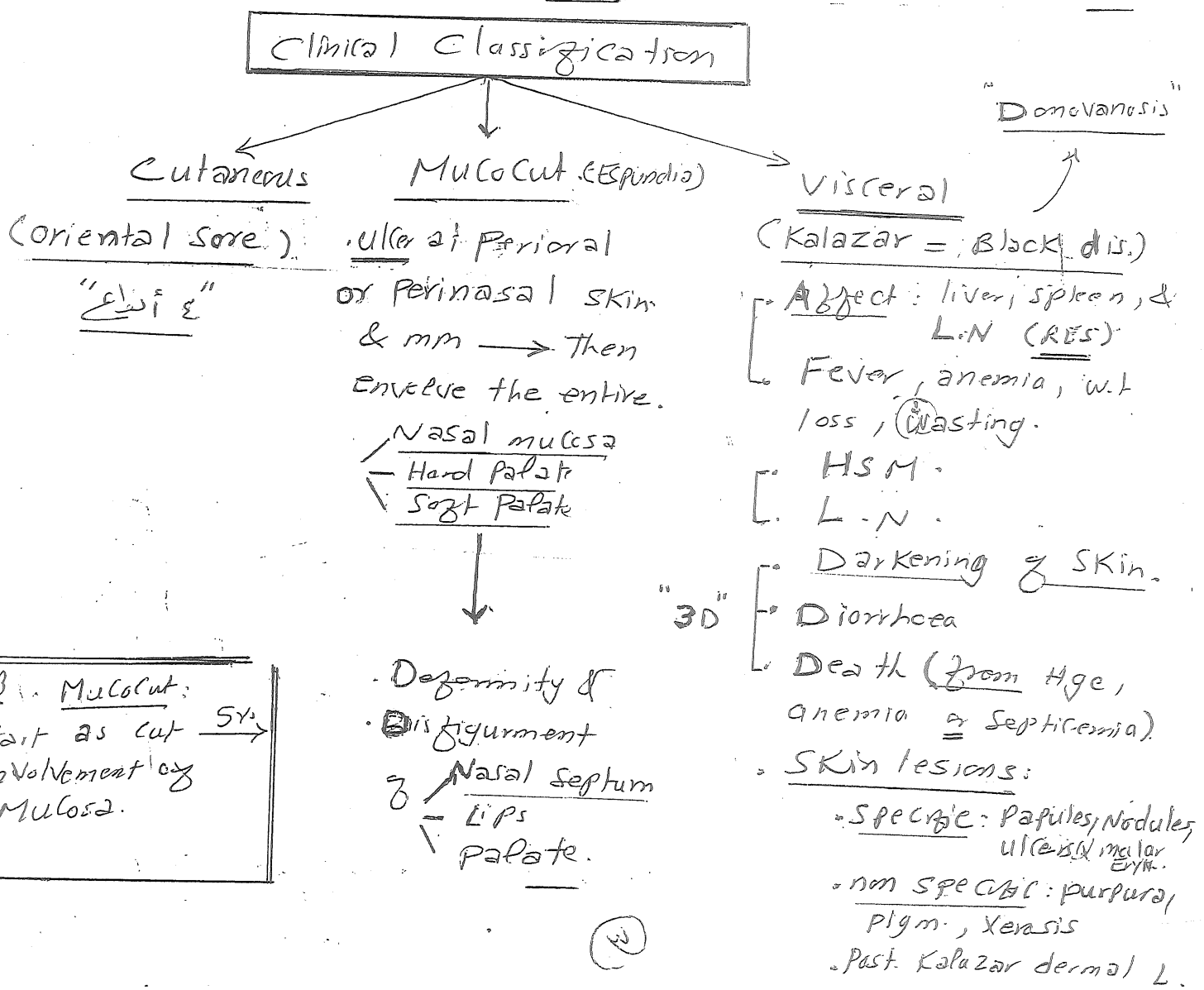
it causes: Cut- or Visceral dis.

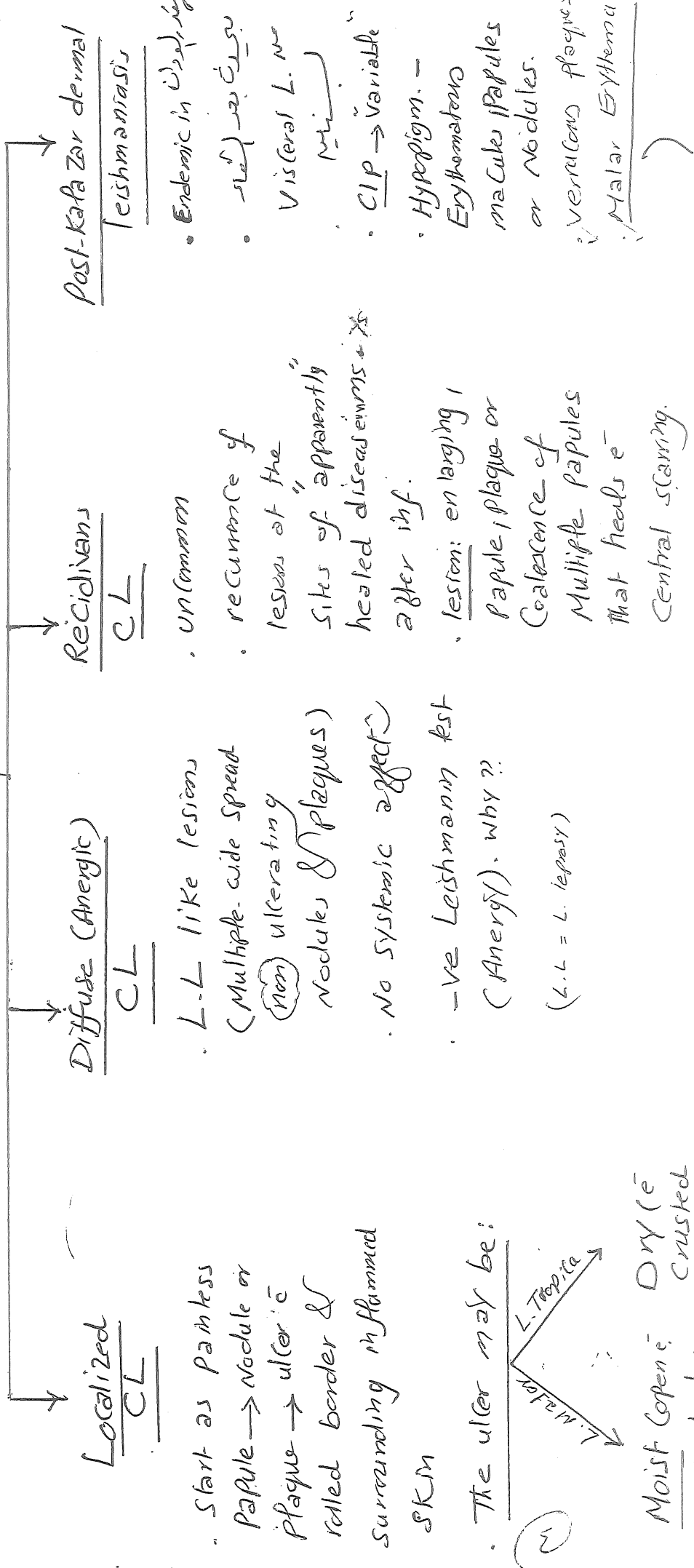
(B) New world leishm. (NWL):

موجودة: وسط وغرب أمريكا واوروبا

it causes: Cut., Mucocut or Visceral dis.

3. Clinical Classification





Localized CL may show spider-like pattern.

- F. Fate of localized Cut
- ① Spont. Resolution & Scarring (3-6 mo) : most cases (90%)
 - ② Chronicity. (> 24 mo)
 - ③ Dissemination.

Causes (نوع المرض و مكان الإصابة)

① Cut. Leishmaniasis:

OW → L ← Aethiopia
Tropica
Major Jpy

Americas → NW → L. Braziliensis
L. Amazonensis
L. Mexicana

② Muco Cut:

NW → L. Braziliensis

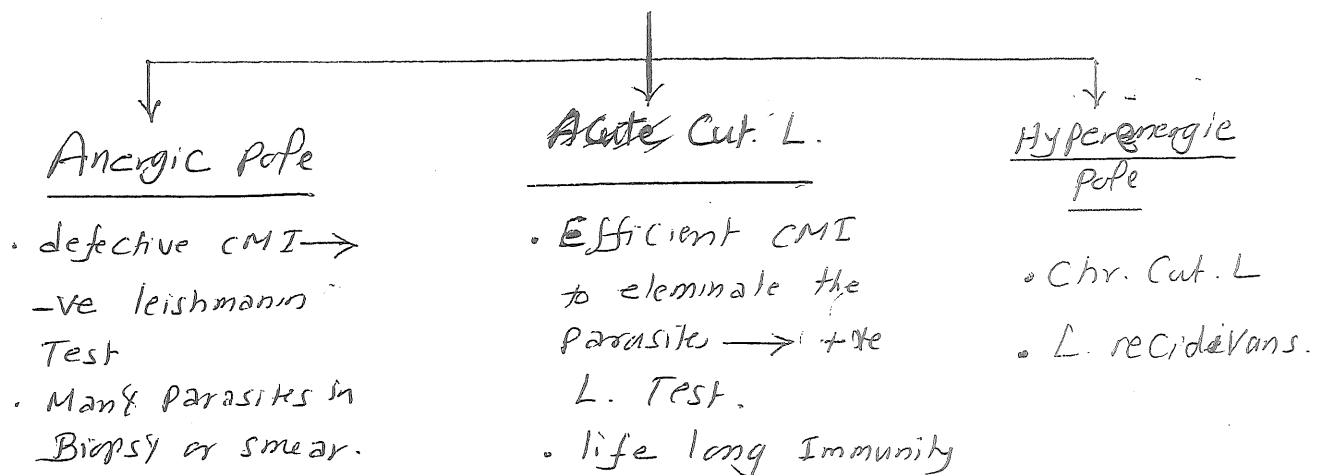
OW → No species can cause Muco Cut.

③ Visceral:

OW → L. Donovan & infantum.

NW → L. chagasi

Leishmania spectrum:



Investigations

RR 10/12

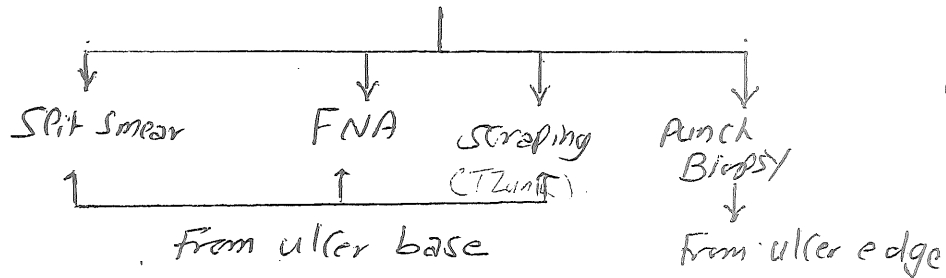
(34)

1. History of Endemic area:

لبنان - ليبيا - أفغانستان
إيران - آسيا - أوروبا

2. Chronic painless lesion.

3. Giemsa / Wright or Feulgen Stained



الحية لا
Smear or Tissue
(direct touch preparation or Biopsy).

NB
Amastigotes
called: leishmania or Donovanian or L-O Bodies.

هاتون

Amastigotes in dermal

Macrophages (75-85%)

تسمى الجراثيم

[Oval & no Flagellae or retracted Flag.]

Cytoplasm → Blue

Nucleus → pink

← Kinetoplast → deep red.

(these Amastigotes called Donovanian bodies)

Called paranucleus
ACCENT NUC. or
small mass of
chromatin
Near! NUC.

4. Culture: (For diagnosis & species specification)

on: Nicolle-Novy-MacNeal (NNM) media
or
Check embryo (Schnider Drosophila).

5. Serology:

PCR (FDA approved. - يفسر)

ELISA, Immunoppt., IF. → (Not specific d.t cross react & Chagas dis.)

6. Leishmanin (Montenegro) skin test:

2

Leishmanin Test

(35)

oil mf suspension of
Cultured Promastigotes intradermally
injected

↓ 2-3ds

Indurated papule ≥ 5 mm.

Interpretation:

1. Result
 - Strong +ve \rightarrow Chr. Cut. (> 24 ms)
 - +ve \rightarrow Acute Cut.
 - -ve \rightarrow Diffuse Cut.
2. usage in pts Living in rim endemic area.
3. don't differentiate bet. Recent & old inf.
4. +ve in 4-6 w. after inf. & in all
Having or had Having inf. Except??

7. Histopathology:

A. localized Cut.

Early lesion. (< 6 ms)

- Acanthosis
- ulceration
- Pseudoepitheliomatous Hyperplasia
- Mixed infiltrate.

+ve Amastigotes inside
Macrophages.

Old lesions. (chr. > 6 ms)

- \uparrow No of giant cells &
- \downarrow No of Amastigotes.
- Caseat \rightarrow Necrosis

Scarring lesion.

- Epid. \leftarrow Flattening & Hypopigment.
- dermal fibrosis.

B. Diffuse Cut.

Amastigotes + few inflamm. cells.

C. Post kala-azar dermal L.

Histiocytic or Xanthomatous
infiltr. + \uparrow No of Amastigotes.

D. L. Recidivans

" " like + No organisms.

Treatment (its self limiting So Ht ± not needed except to # scars dissemination)

Prophylactic

- insecticides
- Insect repellants
- destruction of animal
reservoirs.

• Vaccine: Killed *L. amazonensis*
promastigote vaccine →
++ Th1 → significant
resistance

S.E of Antimonials

- Cardiotoxicity (rare)
- Nephrotoxicity
- Lipidosis
- Pancreatitis

Active

أهم الأدوية
: هو

Pentavalent Antimonials

- Meglumine anti-
moniate
- Sodium Stibogluconate (SG)

20 mg/kg/d IM

For < 20 d For CL
30 d in MCL &
VL

IV:

20 mg/kg/d
For ...

Intra-
lesional

Active Ht

Systemic

Parenteral

oral (P-5A) [RAKID]

①. Pentavalent
antimonial

②. Amphotericin B

(1 mg/kg maximum
15 mg/kg in 5%
dextrose
= 150 mg / 300 ml)
يعطى بـ 150 مل
لـ 300 مل

• R: Rifampicin

• A: Allopurinol (15 mg/kg/d
x 3 w)

• K: Ketoconazole

• I: Itraconazole (200 x 2 x 28)

• D: Dapsone

S.E: Renal Toxicity

Thrombophlebitis

③. Pentamidine: 4 mg/kg IM For (2 wks)

Local

1. أوكس: Paromomycin

Sulfate 15% +
Methylphenethonium
(12%)

2. IL (SG): 1-3 ml
(100-300 mg)
يعطى بـ 1-3 مل
أوكلر سيج

3. Cryo (5% for 20 sec
3 times / w.)

4. Elecho (or heat
therapy)

5. Surgical Excision.

6. Imiquimod 5%

(2). Migrant

- Immediate after penetration or in Ws - ms.

(rare) →

Systemic Manifests

- Peripheral Eosinophilia (Loeffler's Synd)
- ↑ IgE
- Migratory Pulm. Infarctate.

• NB: EM ± Caused by it.

(3) Track Formalin

- 2-3 mm width.
- 3-4 cm. from perianth site
- Snake-like, S-shaped, raised, flesh colored or pink & Itchy
- (1-2 cm id) مقياس 1-2 سم
- Many Tracks
- Many Penetrations
- Sites: Webs of Toes & Knees & Buttock.

- Investigate: • Biopsy From just ahead of leading edge of a track:
- Larvae (PAS +ve) in Suprabasal
 - Spongiosis → Vesicle.
 - Necrotic KCs
 - Eoid- & upper dermal chr. inflamm.

(Treatment)

(Self limiting dis. because Human is an accidental Host
dead end → Larvae death).

↓ to shorten the course

التي هي بيضاوية
في شكل لوزي
وتحتوي على
في شكل اسطواني

① Topical Anthelmintics

↓
For Early Localized lesions

- Triabendazole (of choice)
- Albendazole
- Mebendazole

② Systemic Ivermectin

→ if disseminated lesions
if topical Failed.

(2) Migrate

- Immediate after penetration or in Ws - ms.

(3) Track Form:

- 2-3 mm width.
- 3-4 cm from penetration

itchy site
Snake-like, slightly raised, flesh colored or pink & Itchy

(1-2 cm id) وبندل نيزفانوسا

Many tracks ± d.t.

Many penetration

Sites: Webs of Toes & fingers, Knees & Buttocks.

(rare) → Systemic Manifestations: peripheral Eosinophilia (Löffler's sign), ↑ IgE, Migratory palm. Infarct.

• NB: EM ± Caused by it.

• Investigate: • Biopsy From just ahead of leading edge of a track:

(Mainly clinical)

• Larvae (PAS +ve) in suprabasal Burrows

• Spongiosis → Vesicle.

• Necrotic KCs

• Epid. & upper dermal chr. inflamm. inf.

(Treatment)

(Self limiting dis. because Human is an accidental host & dead end → Larvae death).

↓ to shorten the course

علاج

Doc (of choice)

① Topical Anthelmintic

• Thiabendazole
• Albendazole
• Mebendazole

↓
For Early localized lesion.

② Systemic Ivermectin

→ if disseminated lesion, or if topical failed.

البرازي بيضف
في مكان نوم
و البرازي بيضف
في مكان نوم

Leishmaniasis

A. Cut

• few / uncomplicated lesions

- Observatⁿ
 - paremomyon Topical
 - Cryo
 - Heat
- KIDAR
- IL Shibo Gluc.
- IL Hypertonic Saline

15%
10% Urea

• Invasive lesions

- Multiple, large, disfiguring
- Show lymphatic spread
- at / Near $\left\{ \begin{array}{l} \text{Mucosa} \rightarrow \text{Invasive} \\ \text{face} \\ \text{joint} \end{array} \right.$
- Resist Topical



• Muco Cut. & Visceral

- STG
- Miltefosine
- Liposomal Amphotericin

(1) Pentavalent Antimonial:

- STG
- Meglumine Antim.

(2) Pentamidine

(3) Miltefosine

(4) Amphotericin

• STG

IV (الماء)

IM $\left[\begin{array}{l} \text{IM} \\ \text{IL} \end{array} \right] \rightarrow \text{Very painful}$

IV has Main 3 S.E

(1) CV Complication

جل مانع نهم دم قلب وانزيمات
كيفية ببطء في الدم والقلب
تند حدوث كلة أو Chest pain وقت

(2) Pancreatitis

Follow up c \leftarrow Amylase

(3) Phlebotoxic

اد Vein ويقترب صعب كفة تاني
قلعة طرفية من تكترب ربيع Thrombus

• Miltefosine (2014) \leftarrow Visceral Cut

Mechanism: Antineoplastic agent acts as Phosphocholine analogue \rightarrow \neq e memb. Synthesis & Signal production

• STG IL (Pentostam: 100mg)

• Meglumine (Gluconine: 85r)

كيفية في lesion بطرقه صفة (التي يث Blande
دقة (1-5 مل: 3-5 مل) قف أو مكية
كل بوع لة 1-4 مل

SE: ~~nausea~~, vomiting, teratogenic

FDA (2003), Thermomod device that heats the skin by Radiofreq. wave
(30-50°C) 2-3 times (كل 3-5 أيام) بطة طعة

one or more applicators

Pentamidine (CIM) (قبا)

SE: Persistent DM recurrence

Dose: 2-4 mg / Kg alternate day
for 15 doses

efficacy: \downarrow Recently

IL Hypertonic saline 10% & 15%

CV Complicatⁿ of
STG

ECG $\frac{\text{عمره و سنه}}{\text{سنه و عمره}}$

if

↓ Stokes-Adams

Stnd.: Bradycardia or
Hypotension

↓

Atropine or
Norepinephrine

تجزیه و تحلیل

(1).

ECG & CV enz.

(2)

lipase & Amylase

(3)

liver & Renal

(4)

CBC

Onchocerciasis

(River blindness)

• Oculocut dis, caused by

Worm: Onchocerca
volvulus

Transmitted by Black Fly
of genus "Simulium"

ينتقل بواسطة ذبابة سوداء
Inter-tropical & Sub-tropical
Zones

(Transmission)

90% in Africa

العين - نابين : 10%
أفريقيا الاستوائية

من مظاهر المرض الجلدية
Skin dis. & Blind.
* 2 مظاهر

الدورة الحياتية تتغير في Lumps في الجلد
بضع مئات من Larvae (Micro-filaria)
الـ Skin & Eye
→ Very Toxic

تتأثر من طرف الذبابة السوداء

2 wks → mature larvae →

Transmission of infect
to other pts.

(CIP)

(A) Skin dis : 6 Types & ≥ 2 Types may be present
in 1 pt. The pattern may evolve &
change over Time.

(1) Onchodermatitis:

Vesicular rash.

- (i) Acute papular: wide spread, Eczematous Papulo pust.
- (ii) Chr. papular: severely itchy papular rash & pigm.
- (iii) Lichenified: at L.L, lichenified + L.N

(2) onchocercal dermatitis, Atrophy, Nodules

Leopard skin: depigm.
areas & per follicular
Islands of pigm. Bilat
at Tibia.

Atrophic
skin at
buttocks &
lower back

↳ S.C nodules
Contain Adult Worms
at bony prominences
Contain: 2-4 worms
Length: may reach 80

(3) Other

• Lizard skin: Ichthyosis like.

• Hanging Grown: inelastic Atrophic (shrunken)
Skin at growth ass. w/ L-N

• (B) Ocular dis.: (death of Microfilaria)
d.L
irritatⁿ, itching, photophobia
- glaucoma
Blindness.

• Diagnosis

• Skin shavings of lesion → show microfilaria
• Nodule excision → Warm under mic.
• Slit lamp exam → microfilaria
• Antionchocercus Antib.

(H)

①. Ivermectin: affect microfilaria only Ca
stop progression of dis.

②. Recently: Doxy Targets essential bact. needed
For Fertility of Onch. worm (Symb.
relationship) (called Wolbachia).

③. Insect repellents

eggs
3

Life cycle

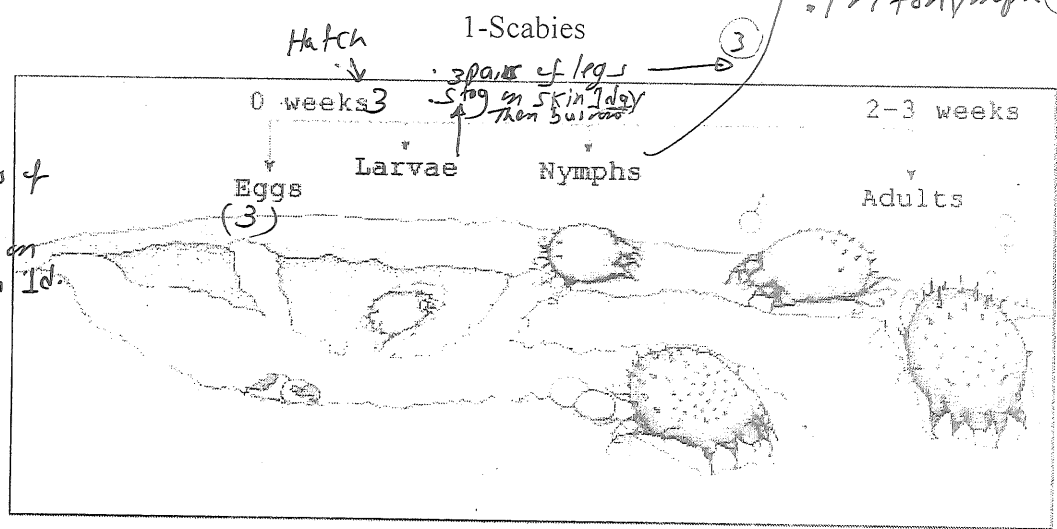


Fig. 3. The life cycle of *S. scabiei* comprises five lifestages: egg, larva, protonymph, tritonymph and adult. Illustration: Katarina Näslund

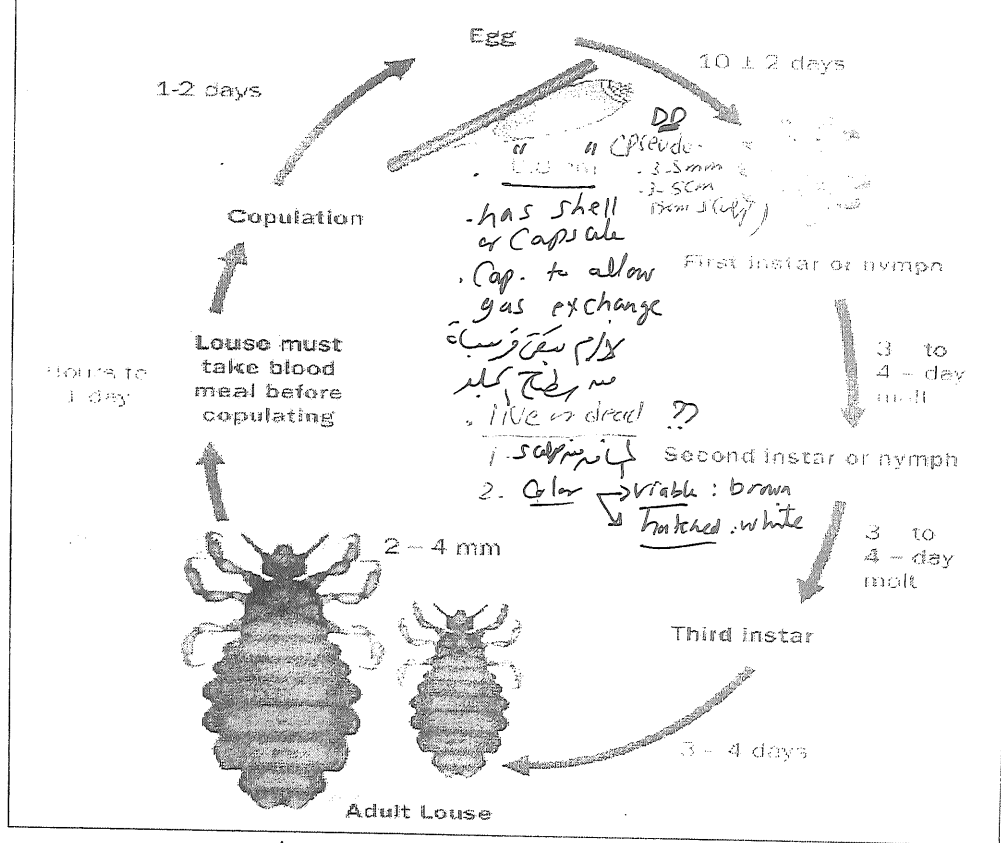
3d hatch
↓
Larva { 3 pairs of legs
1 leg
stop on skin 1d.
↓ 3
Protonymph
↓ 3
Nymph
↓ 3
Adult
↓
Copulation
↓ 1-2d
Burrows & Lay eggs

2- Pediculus capitis

Adult:
3, 3, 3
10, 10, 10

life cycle: 30d.
3 mm (Sesame size)
3 pairs of clawed legs.
10 eggs.
hatch after 10d.
3 nymph stages (10d) (2w)

Life cycle of Pediculus Capitis (Head lice)



SUCK 5 times/d
each louse can move 23cm/min.
Can't survive > 2-7d away from host

Rule of thumb
Nits > 1-2cm from scalp surf.
→ Empty lice

Scabies: 3 eggs, 3d hatch → Larva & Nymph 7d → Adult
Pedic: 10 eggs 10d → 3 nymph 2w → ~